

## Concurrence with AM based JEM

**Bob Benson** to: Thomas Bateson, Krista Christensen, Leonid Kopylev, Danielle DeVoney

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From: Bob Benson/R8/USEPA/US

To: Thomas Bateson/DC/USEPA/US, Krista Christensen/DC/USEPA/US, Leonid Kopylev/DC/USEPA/US, Danielle

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Thank you for your concurrence with our approach for determining the JEM based on the arithmetic mean. We will deal with your editorial suggestions once we have the additional text from UC.

We have asked UC (Linda) to review your comments on the LOESS (Fitting Method 1, page 3) and exponential model (Fitting Method 2, page 4). If UC has questions, we will forward them to you. Otherwise, we expect that Linda can provide clearer text.

There was a question about the outlier on page 8. We think the question includes the definition of an outlier (non-representative or measurement error). We do not believe that we have to supply a specific reason, only that we consider the measurement to be non-representative and we are excluding it.

There was a question about the dust levels on page 8. The dust level was changing only for the indoor trionizing jobs from 1967 to 1972. The dust level for indoor trionizing jobs was the same from 1957 to 1967. The dust level was constant for outdoor jobs and background jobs. See Table 4-7. This same procedure was used in the document sent to the SAB and no concerns were raised by the SAB.

In the cover email, there was a paragraph beginning, "Unaddressed was a comment..." If we understand your original comment, the comparison of the 1 segmented versus the 3 segmented for indoor trionizing jobs in Table F4.2 provides what you asked for. Please let us know if you have a different view.

We believe there is a potential misunderstanding of the choice between GM and AM based modeling. We do not believe the choice of which one to use should be based on fitting quality. The choice is based on which approach is most appropriate for characterizing risk. We believe EPA has a history of characterizing risk based on average exposure estimates, not geometric mean exposure estimates. The USEPA Framework Guidance for Asbestos Sites clearly states the exposure estimates for risk assessment are based on the average concentration of airborne fibers. We believe all IRIS files based on occupational studies have used an arithmetic average exposure estimate to develop RfCs or IURs. If we use the GM-based JEM to derive the RfC, the risk at the site would have to be evaluated based on the geometric mean of the exposure data set. EPA has never done this. Please let us know if we need further discussion of this point.